

APPENDIX I

1. (amended) A semiconductor integrated circuit comprising:
at least one signal amplifying transistor for amplifying an input
signal supplied to a gate thereof;

a first bypassing means for bypassing a part of said
input signal to a ground side according to the strength of said
input signal; and

a second bypassing means for bypassing a part of said
input signal to an output side according to the strength of said
input signal.

3. (amended) A semiconductor integrated circuit as claimed
in claim 2,

wherein said first bypassing transistor is formed by M (M
is an integer of 1 or more) transistors connected in series with
each other such that a source of a transistor in a preceding
stage is connected to a drain of a transistor in a succeeding
stage; and

each of the gates of the M transistors is connected to
said first bypass control voltage applying terminal via a
resistance.

5. (amended) A semiconductor integrated circuit as claimed
in claim 6,

wherein a source of said signal amplifying transistor is
grounded via a capacitance; and

said control means includes:

a plurality of bias current controlling transistors whose
drains are each connected to the source of said signal amplifying
transistor and whose gates are connected to a plurality of drain
bias current control voltage applying terminals via resistances;
and

a plurality of self-bias resistances each having one end connected to one of the sources of said plurality of bias current controlling transistors, and each having another end connected to a reference potential.

8. (amended) A semiconductor integrated circuit as claimed in claim 6,

wherein a source of said signal amplifying transistor is grounded via a capacitance; and

said control means includes:

a plurality of bias current controlling transistors whose drains are each connected to the source of said signal amplifying transistor and whose gates are connected to a plurality of drain bias current control voltage applying terminals via resistances; and

a plurality of self-bias resistances each having one end connected to one of the sources of said plurality of bias current controlling transistors, and each having another end connected to a reference potential.

11. (amended) A radio communication apparatus comprising:

an antenna;

an AGC (~~abbreviation of~~ Auto Gain Control) amplifier for amplifying a signal received by said antenna;

a mixer for mixing an output signal from said AGC amplifier with a predetermined frequency; and

a signal strength detecting circuit for detecting the signal strength of the received signal;

said AGC amplifier including:

at least one signal amplifying transistor for

amplifying an input signal supplied to a gate thereof;

a first bypassing means for bypassing a part of said input signal to a ground side according to the strength of said input

signal; and

a second bypassing means for bypassing a part of said input signal to an output side according to the strength of said input signal.

13. (amended) A radio communication apparatus as claimed in claim 12,

wherein said first bypassing transistor is formed by M (M is an integer of 1 or more) transistors connected in series with each other such that a source of a transistor in a preceding stage is connected to a drain of a transistor in a succeeding stage; and

each of the gates of the M transistors is connected to said first bypass control voltage applying terminal via a resistance.

14. (amended) A radio communication apparatus as claimed in claim 12,

wherein said second bypassing means includes:

a second bypassing transistor having a drain connected to the drain of said first bypassing transistor, and a gate connected to a second bypass control voltage applying terminal via a resistance; and

a second bias signal strength adjusting resistance having one end connected to a source of said second bypassing transistor, and another end connected to said bias voltage applying terminal via a resistance and connected to a drain of said signal amplifying transistor via a capacitance.

15. (amended) A radio communication apparatus as claimed in claim 14,

wherein said second bypassing transistor is formed by N (N is an integer of 1 or more) transistors connected in series with each other such that a source of a transistor in a preceding

stage is connected to a drain of a transistor in a succeeding stage; and

each of the gates of the N transistors is connected to said second bypass control voltage applying terminal via a resistance.

18. (amended) A radio communication apparatus as claimed in claim 16,

wherein a source of said signal amplifying transistor is grounded via a capacitance; and

said control means includes:

a plurality of bias current controlling transistors whose drains are each connected to the source of said signal amplifying transistor and whose gates are connected to a plurality of drain bias current control voltage applying terminals via resistances; and

a plurality of self-bias resistances, each having one end connected to one of the sources of said plurality of bias current controlling transistors, and each having another end connected to a reference potential.

APPENDIX II

ABSTRACT OF THE DISCLOSURE

An amplifier circuit unit including a signal amplifying transistor is provided with a first bypass circuit unit for bypassing a part of an input signal to a ground side according to the strength of the input signal, and a second bypass circuit unit for bypassing a part of the input signal to an output side according to the strength of the input signal, whereby gain attenuation control is effected. Also, the amplifier circuit unit is provided with a control circuit unit for decreasing the a drain bias current of the signal amplifying transistor when the first bypass circuit unit bypasses the part of the input signal to the ground side, and interrupting the drain bias current of the signal amplifying transistor when the second bypass circuit unit bypasses the part of the input signal to the output side, whereby control of the drain bias current is effected.